

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

Complete Denture Impression

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“Ideal impression must be in the mind of the dentist before it is in his hand. He must literally make the impression rather than take it”

- M.M. Devan



Complete Denture Impression

Definition

Anatomical Landmarks

Objectives of impression

Requirements of impression

Impression trays

Preliminary impression

Final impression

Nausea during impression

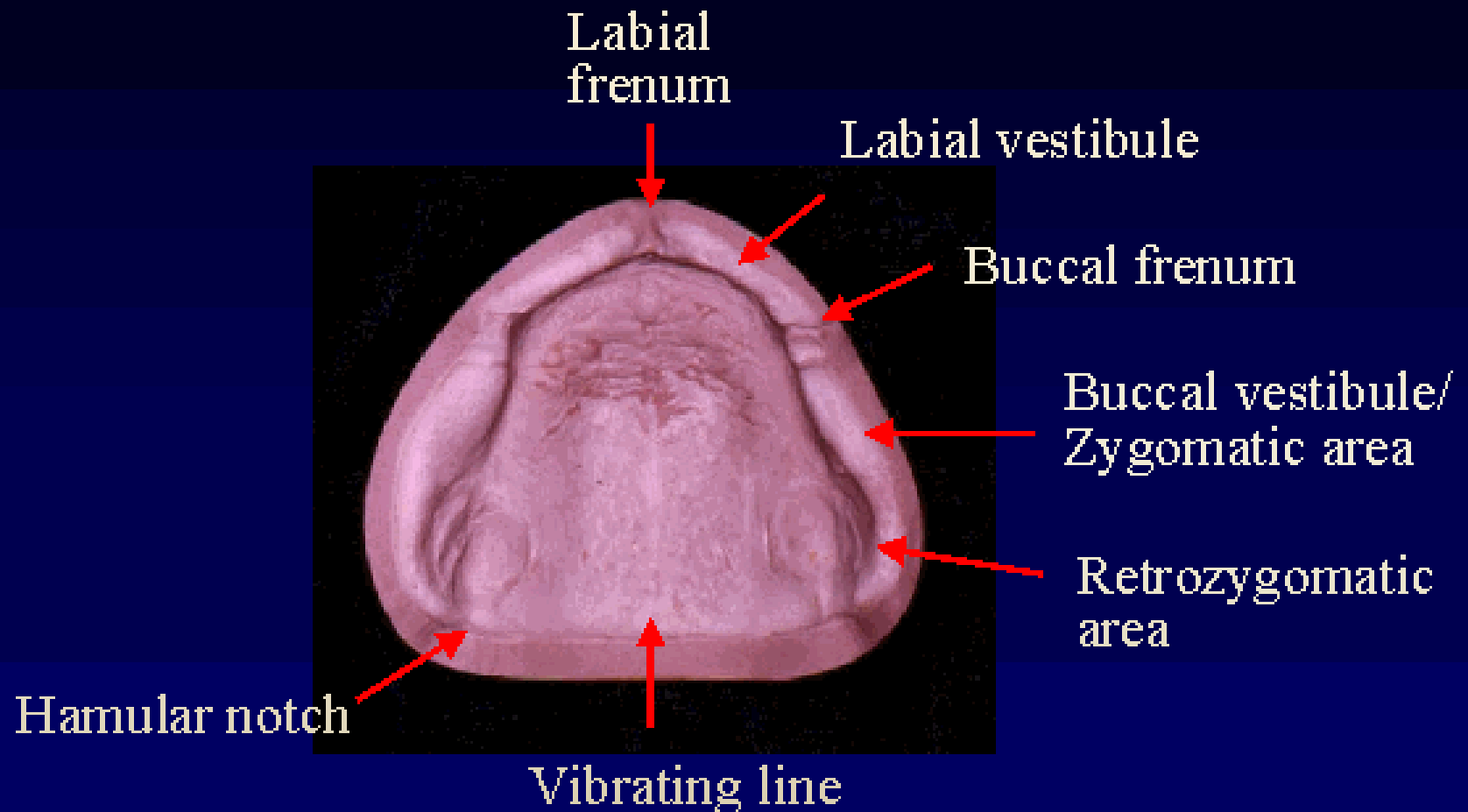
Casus of remaking the final impression

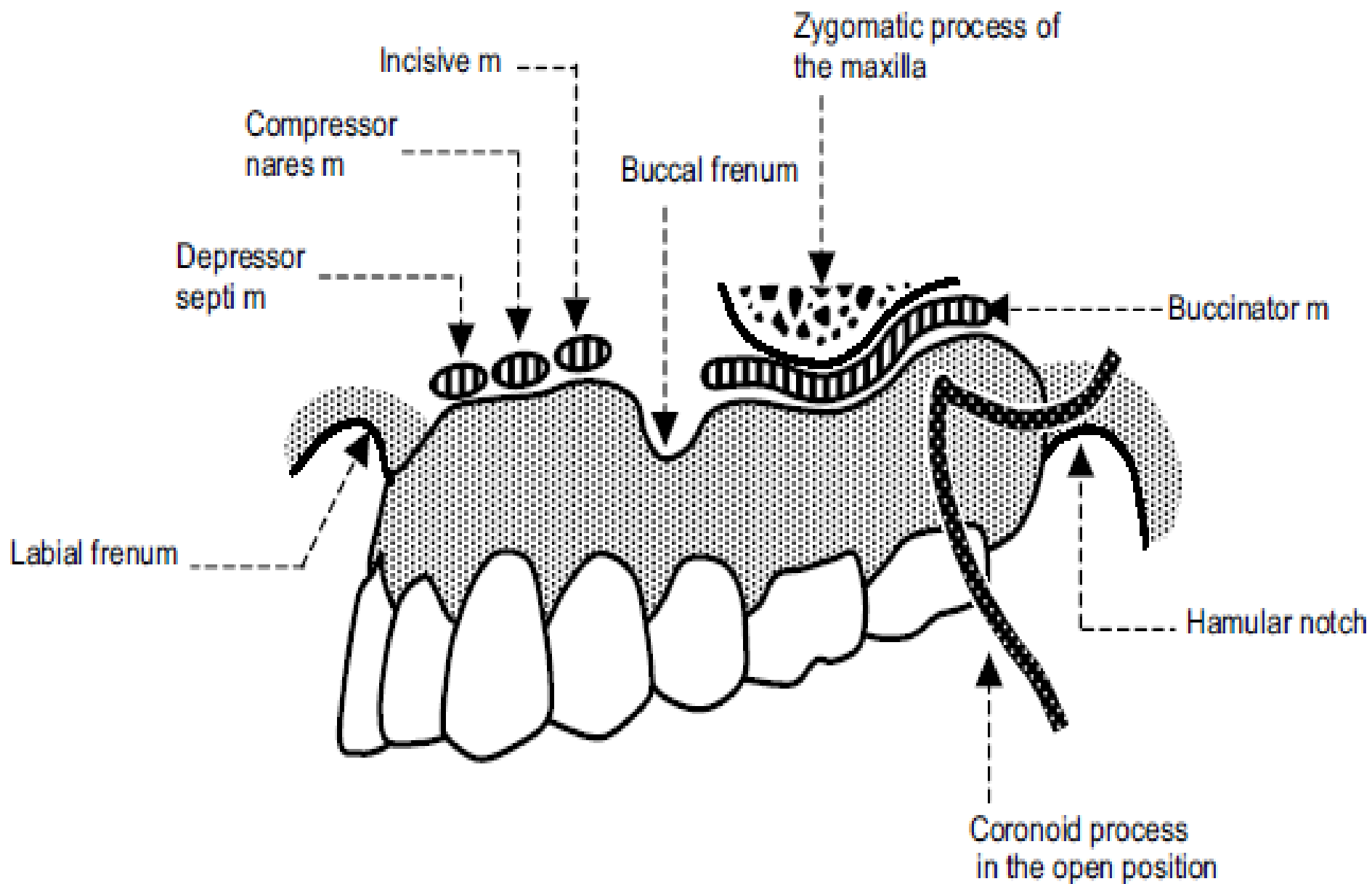
Complete Denture Impression

- **Definition:**
- CD impression is a negative registration of the entire denture bearing, stabilizing, and border seal areas present in the edentulous mouth.
- A *negative likeness* or copy in reverse of the surface of an object .

Glossary of Prosthodontic Terms 2005

Anatomic extent of the maxillary denture





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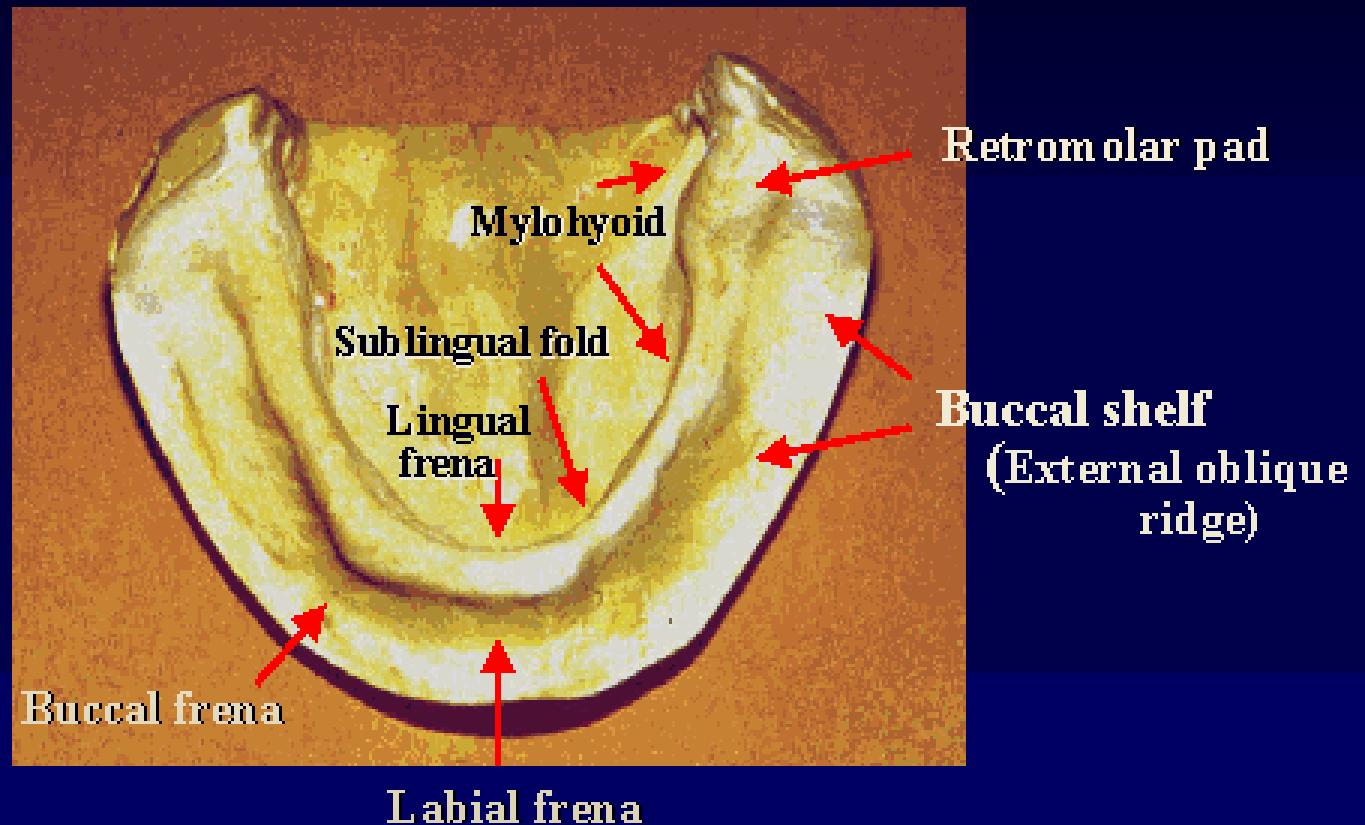
Fig. 10.9 The buccal anatomical relations of the upper denture.

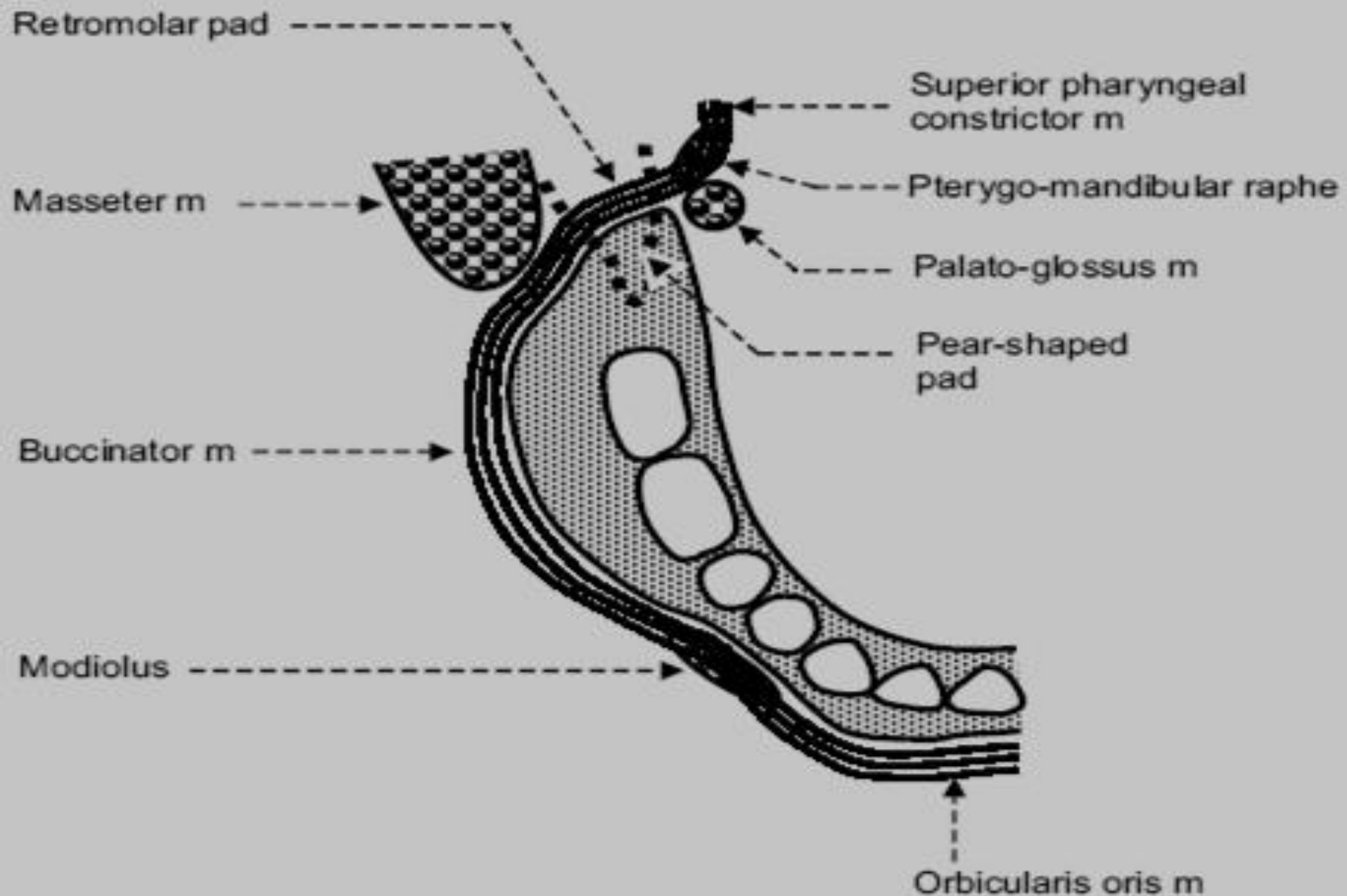
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Anatomic extent of the mandibular denture





Impression Objectives

Record all the potential denture bearing surface available .

1. Preservation of the remaining structure
2. Support
3. Stability
4. Esthetics

Requirements for an impression

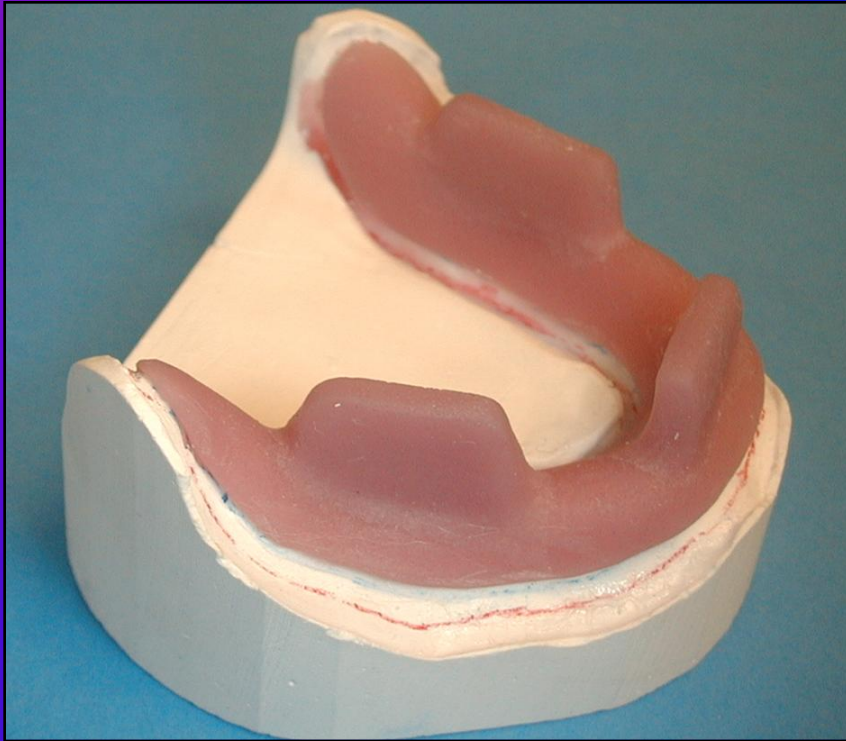
1. The tissues of the mouth must be health.
2. Proper space for the selected impression material should be provided within the im-pression tray.
3. A physiological type of border-molding procedure should be performed.

4. The *border must be in harmony* with the anatomical and physiological limitations of the oral structures.
5. The *impression should extend to include all of the supporting and limiting tissues.*
6. The *tray and the impression* material should be made of *dimensionally stable* materials.
7. The *external shape of the impression must be similar to the external form* of the complete denture.

Impression trays for CD

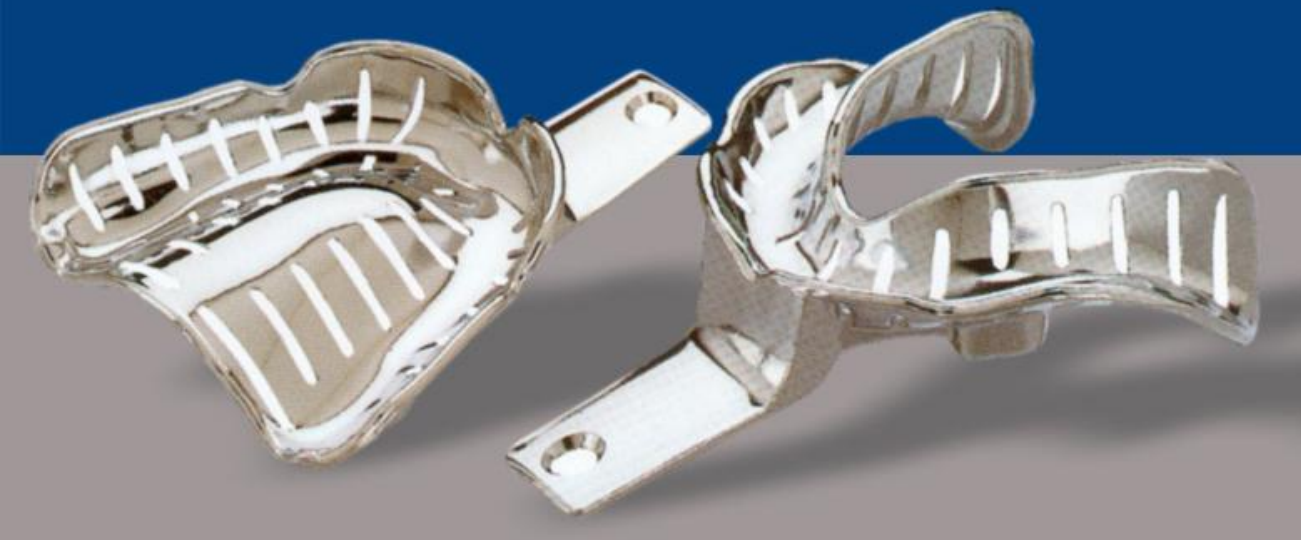
Types (Ready made, custom made)

Materials (plastic, metallic..etc.)





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Management of supporting tissues before impression making

- **Rest from old denture:** leave old dentures out of the mouth for 24 hours prior to impression.
- **Use of tissue conditioners** if the patient cannot leave the dentures out the mouth.

Preliminary Edentulous Impressions

Preliminary Edentulous Impressions

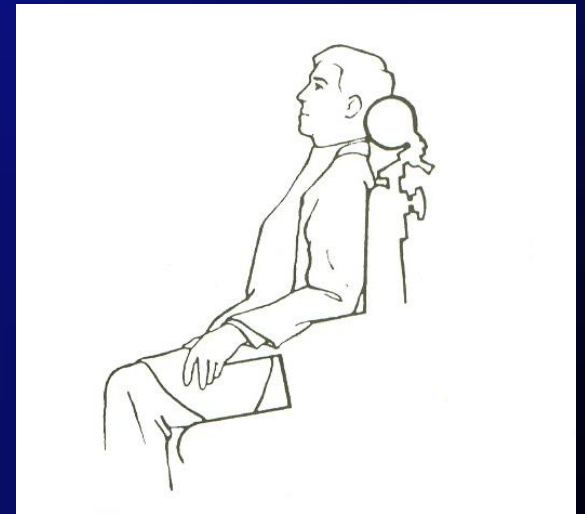
- Preliminary impressions needed for diagnostic casts for making custom trays



- Seating of the patient

The dental chair is set in the **upright position**.

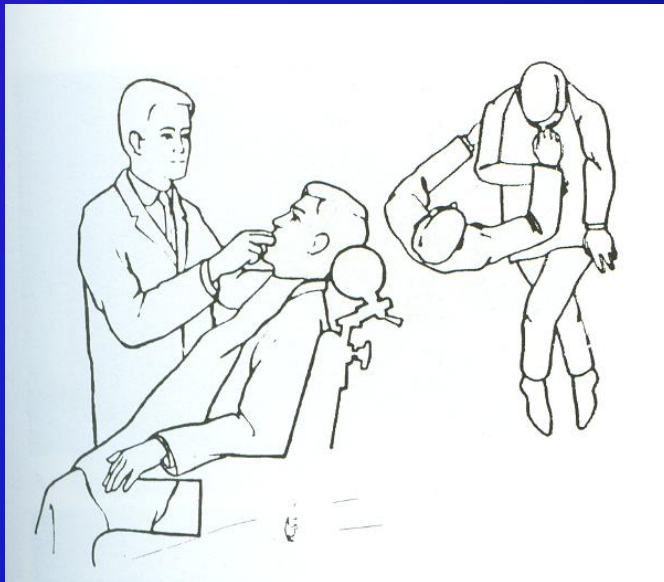
Head and neck, are **in line** with the trunk.



Position of the operator for maxillary impression



Position of the operator



Position of the operator for mandibular impression

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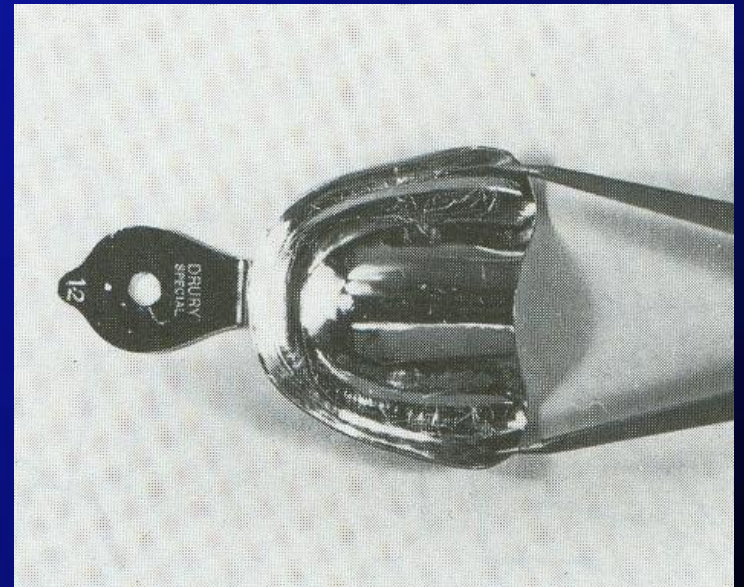
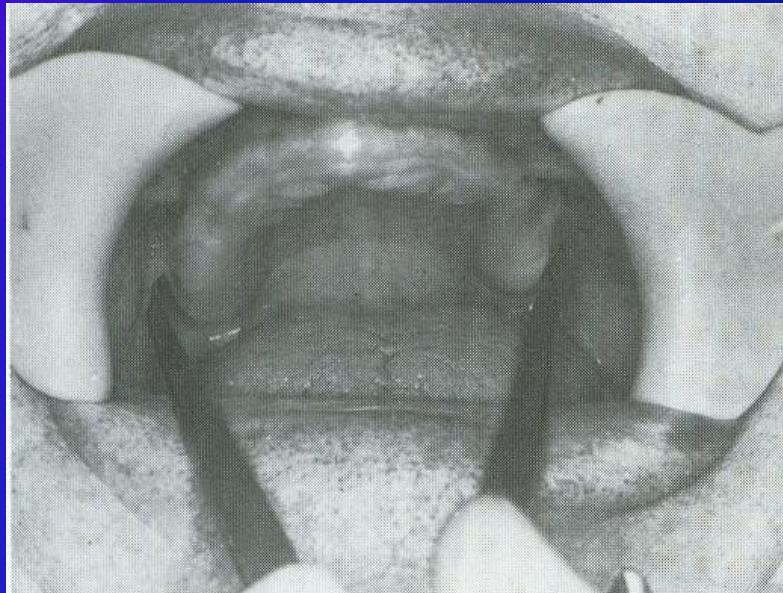
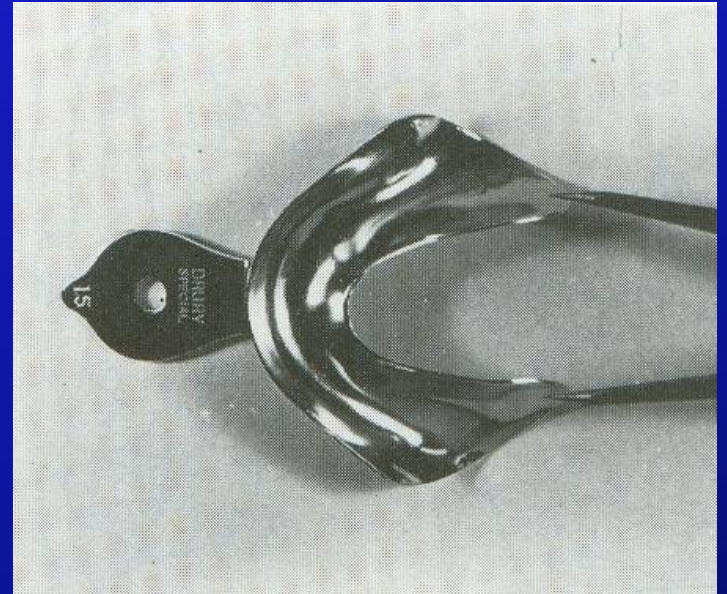
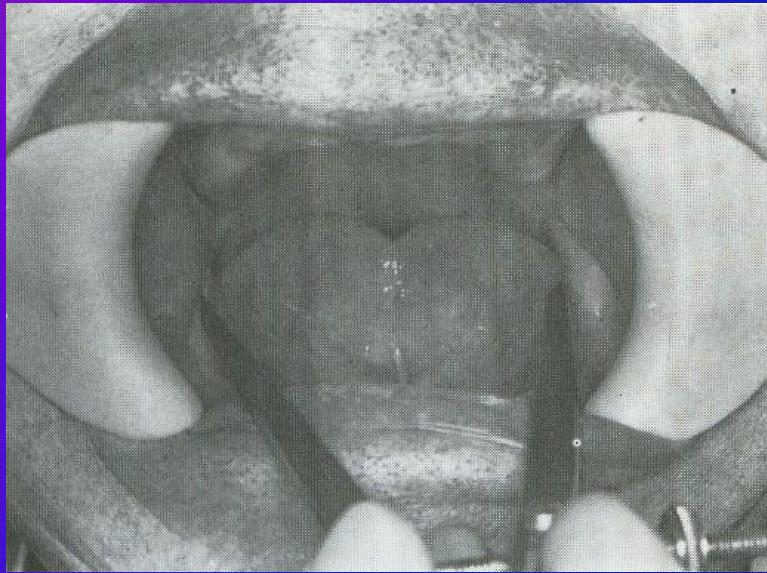
Selection of the Stock Tray

Too large tray

- **Distort** the tissues around the borders of the impression.
- **Pull** the soft tissues under the impression away from the bone.

Too small tray

- Many pressure areas will be present
- The border tissue will collapse inward onto the residual ridge.



Maxillary tray selection



Mandibular tray selection

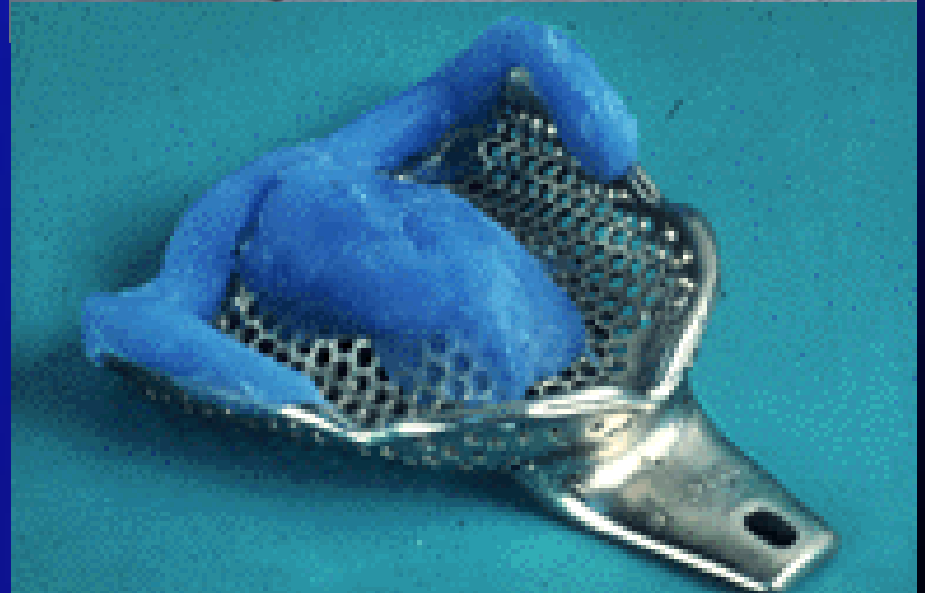


Modification Of Stock Trays

Cutting

Bending

Adding



- **Tray modifications**



Compound impression



Impression Compound

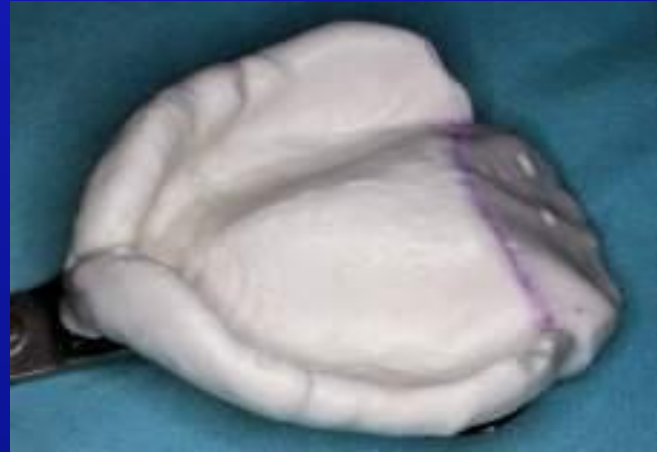
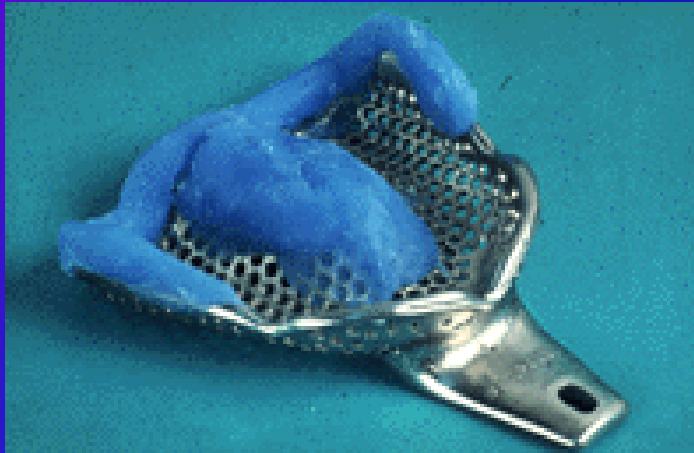


Advantages of compound impression

- *Addition and correction.*
- *Ease of manipulation.*
- *Well tolerated by the patients.*

Disadvantage???

Alginate Impression



Measuring Powder & Mixing



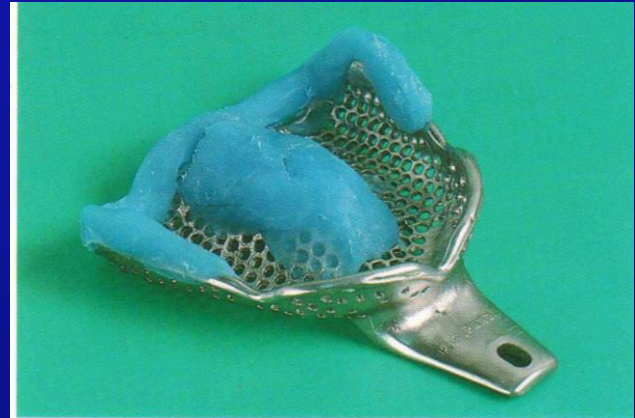
Removal from the mouth

- Should be *displaced sharply* from the tissues to ensure
 - best elastic behavior.
 - Increase tearing resistance
- *washed with cold water* to remove saliva,
- Covered with a damp napkin to prevent syneresis.
- cast as soon as possible,(not more than 10 minutes)

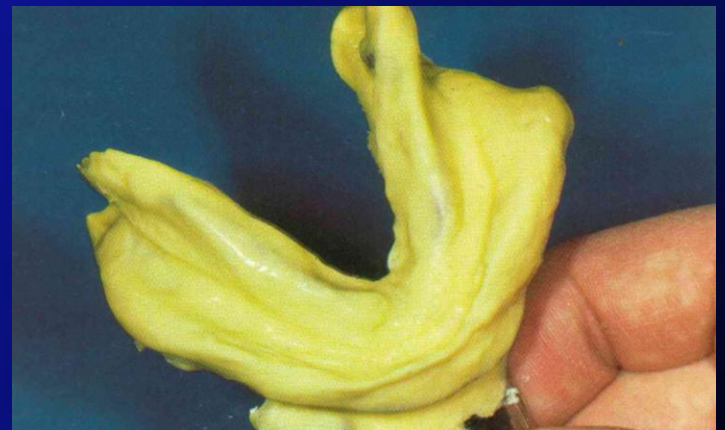
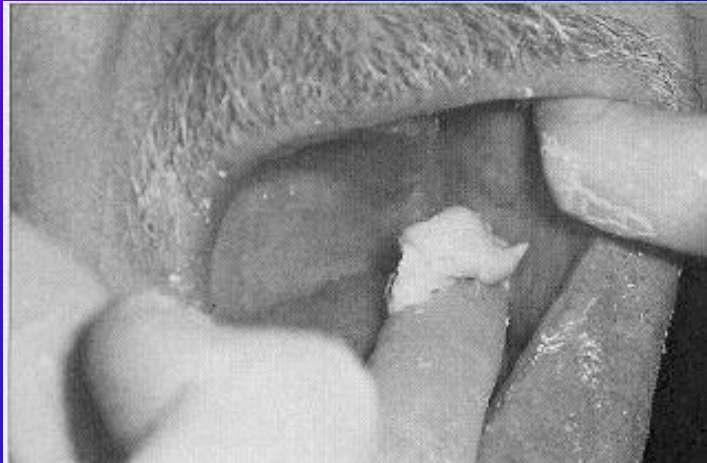


Primary impression making

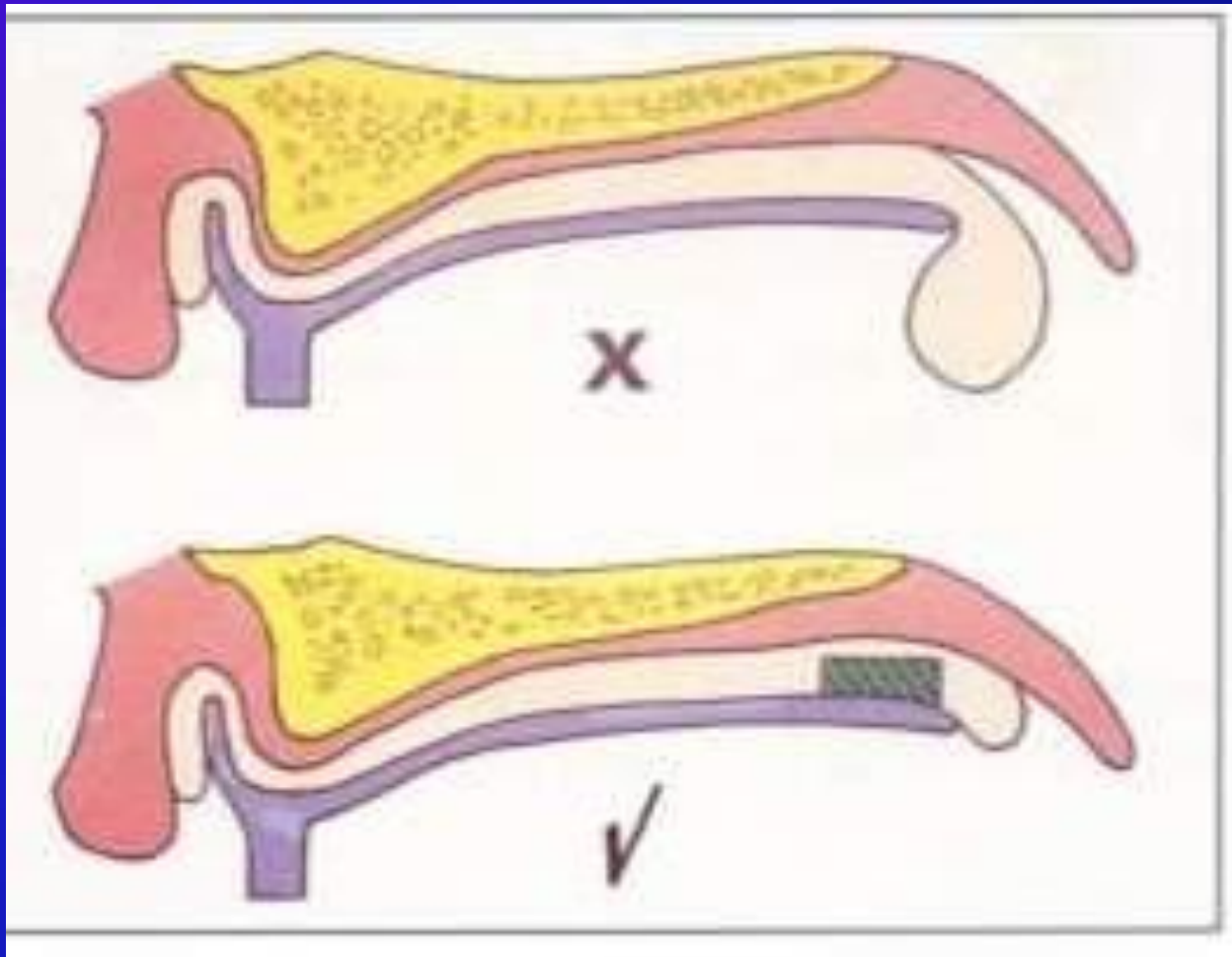
- With alginate (Maxillary)



(Mandibular impression with alginate)



Post damming the tray

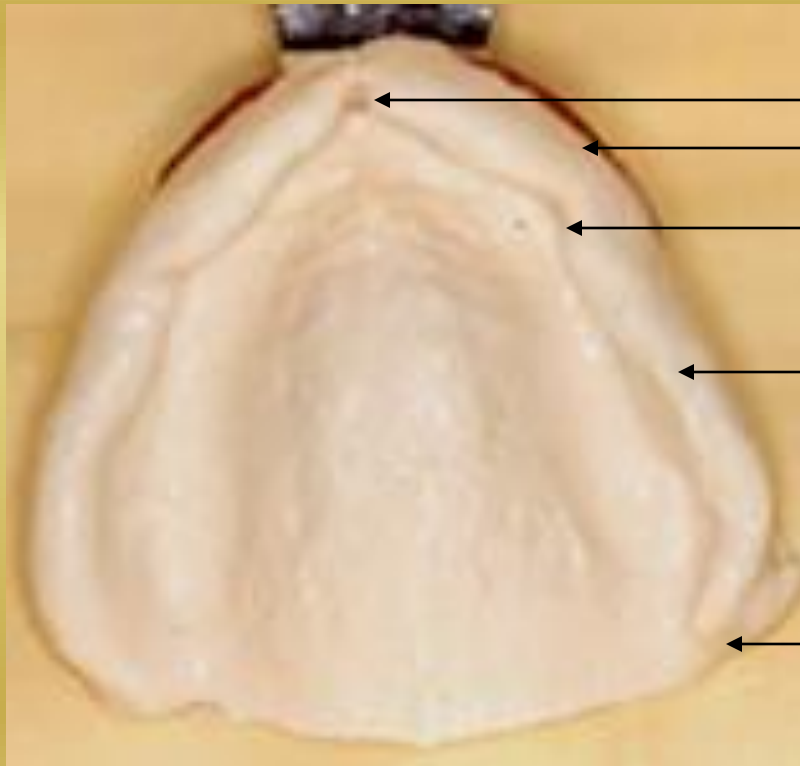


Sample Impressions



Preliminary Impressions

Maxillary Features



frenal notch

labial vestibule

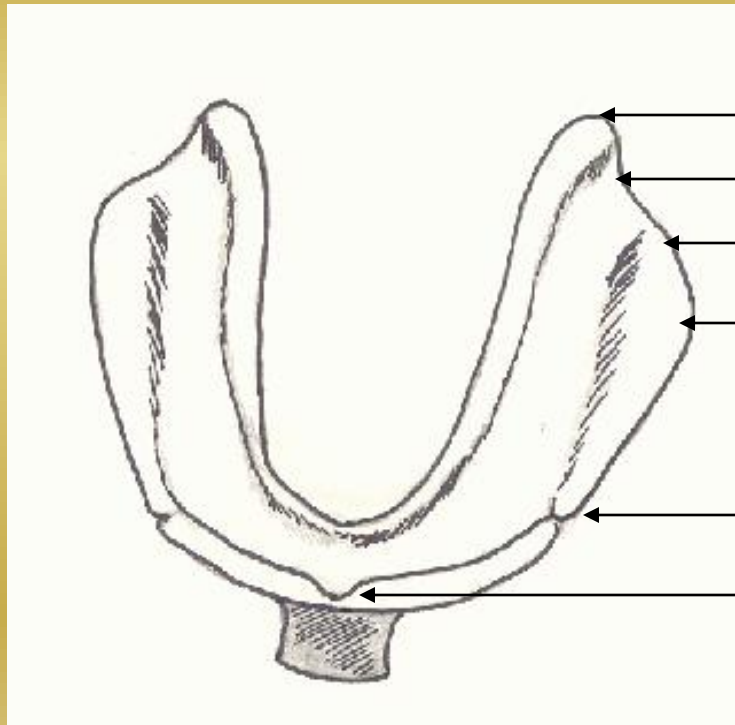
buccal frenal notch

buccal vestibule

hamular notch

Preliminary Impressions

Mandibular Features



retromylohyoid area

retromolar pad

masseter groove area

buccal shelf area

buccal frenal notch

labial frenal notch

Final Impression



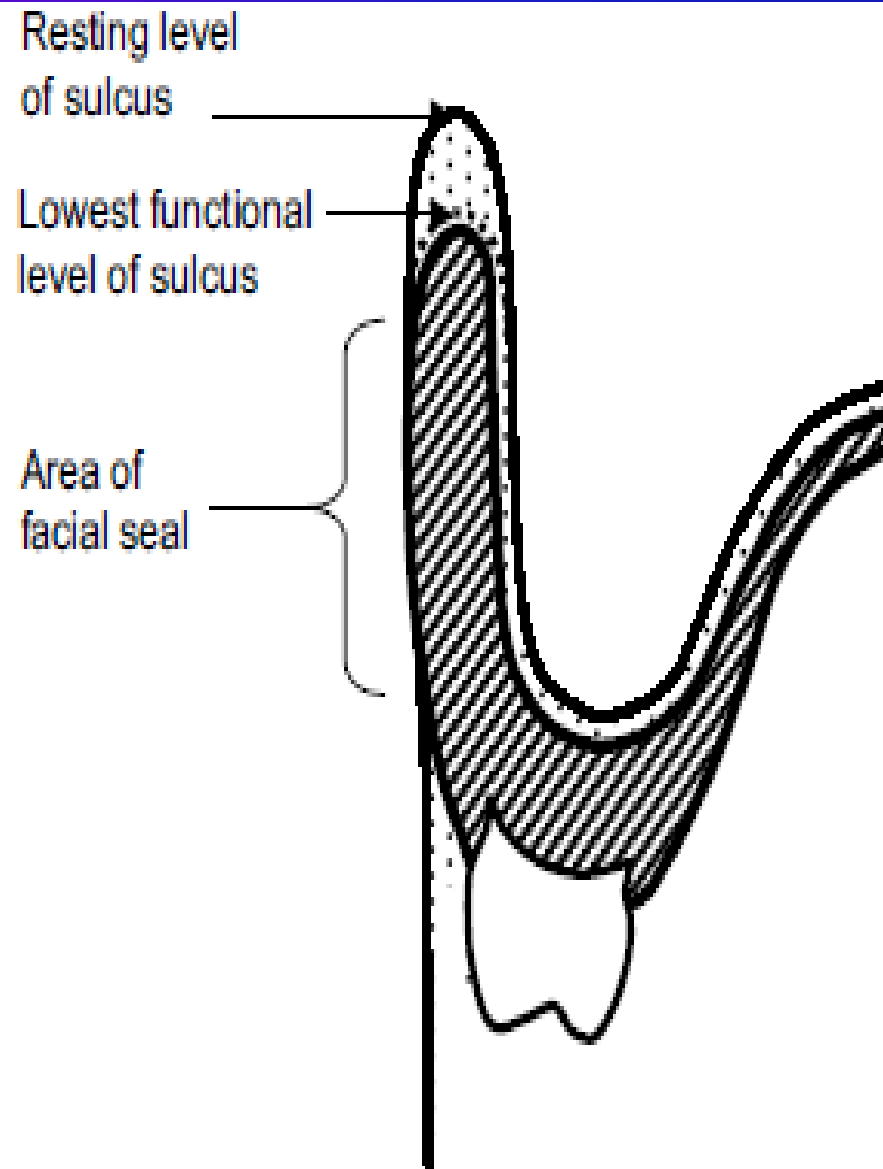
Objectives of final impression

Accurate record of

**The shape of mucosa overlying the alveolar ridges
and hard palate**

&

Functional depth and width of the sulci.



Lateral extension of the buccal flange to produce a facial seal.

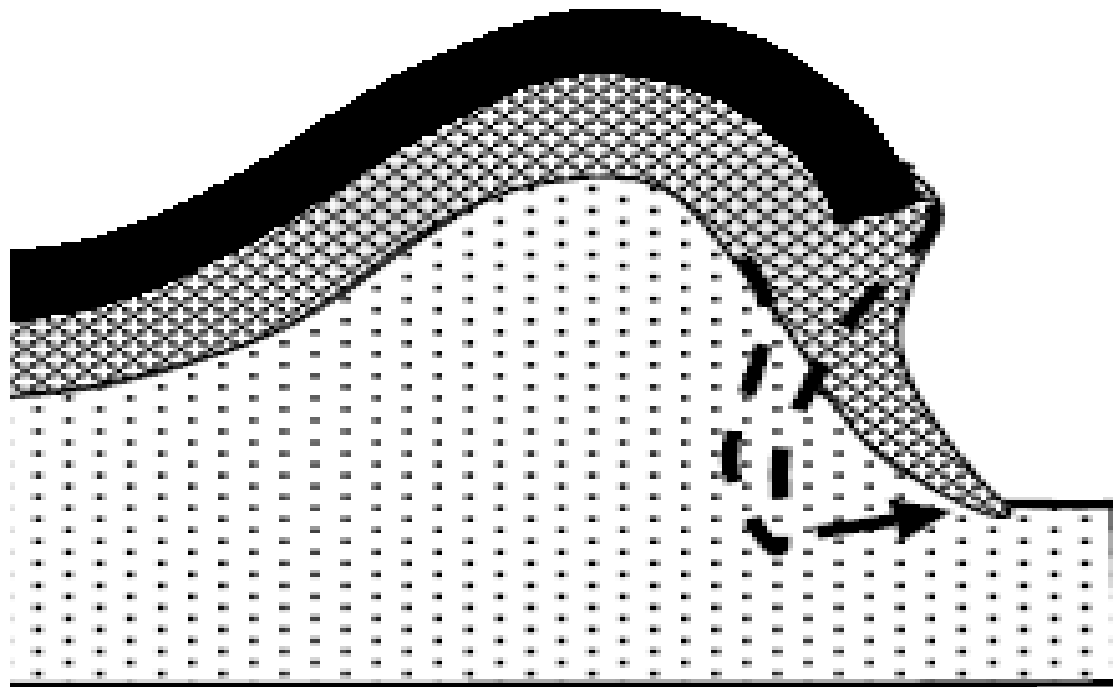
Procedures of final impression

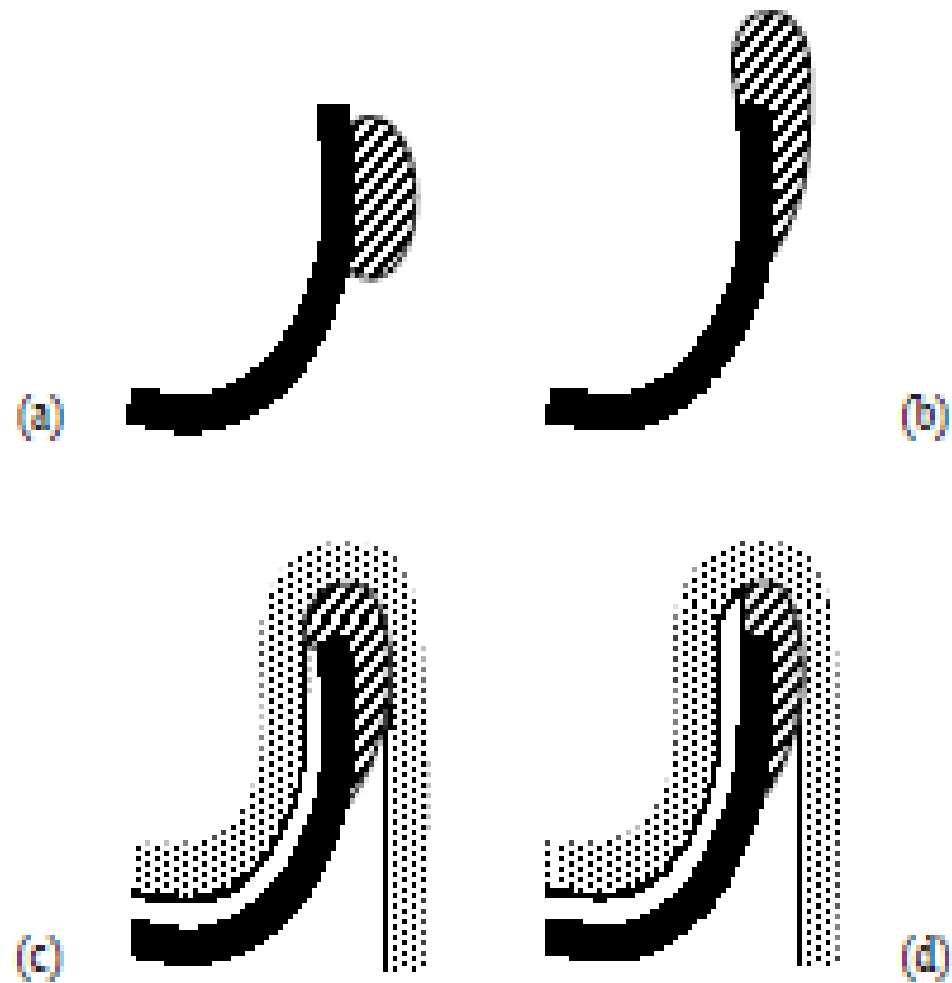
- A. Checking and adjusting the special tray.
- B. Border molding the special tray.
- C. Final impression making.
- D. Checking the impression.
- E. Beading, boxing and pouring the impression.

B- Border Molding

The objective of border molding

- determine the contours and width of the borders of
 - Relationship of borders to oral function during mastication , deglutition and phonation





Border Molding

Shaping borders of impression tray

- Functional or manual manipulation of tissues
 - Duplicates contour & size of vestibule



Tray Wax Spacer

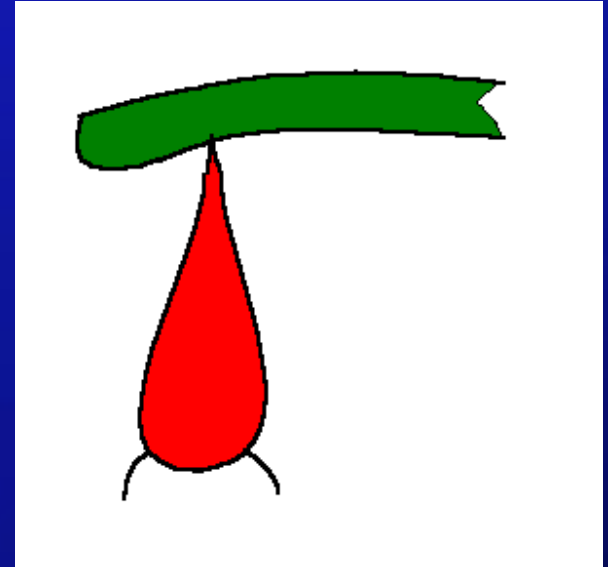
- Remains in place during border molding procedures
- Don't make tray perforation before border molding





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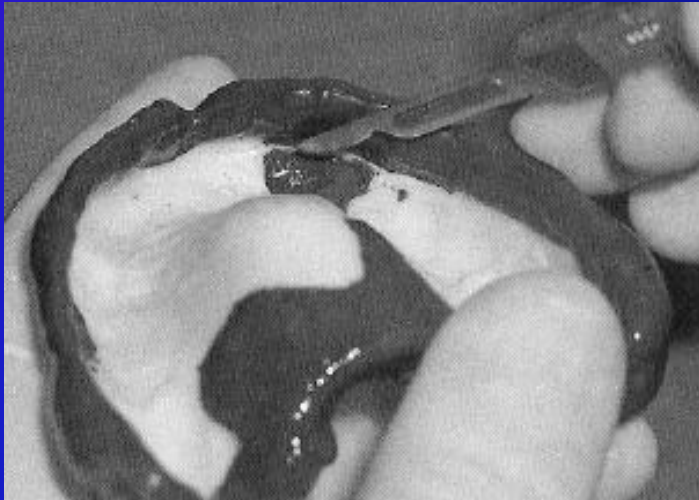
Heating and applying the compound



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After Removal

- Chill in cold water
- Trim excess over wax spacer or external material that is thicker than 4-5 mm
 - Clean debris from tray

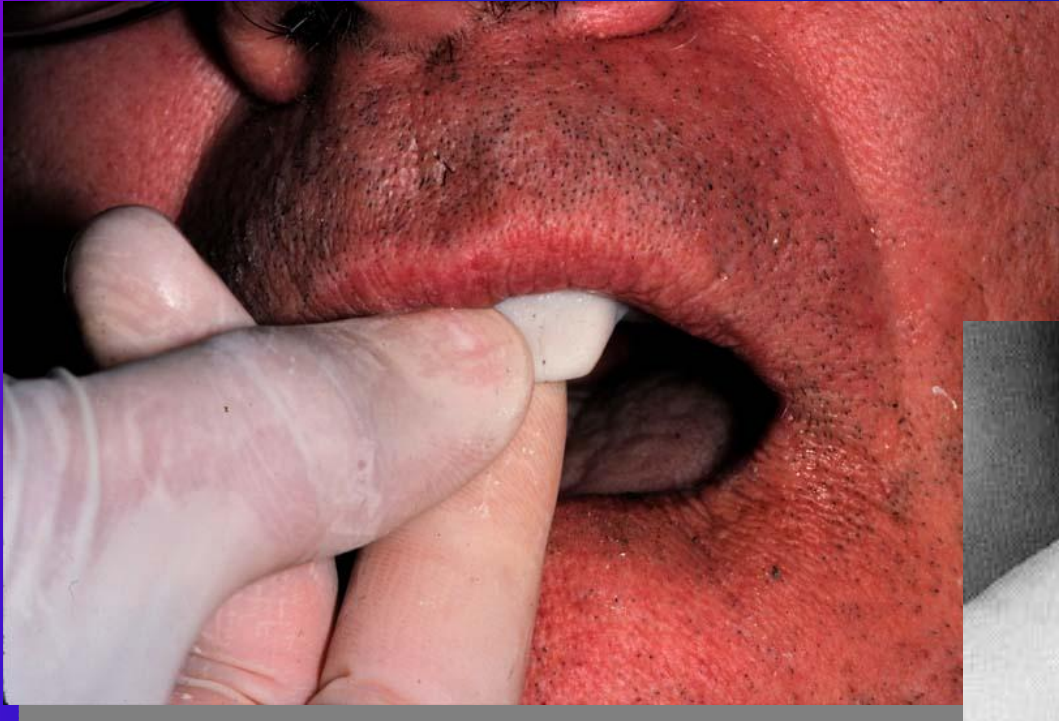






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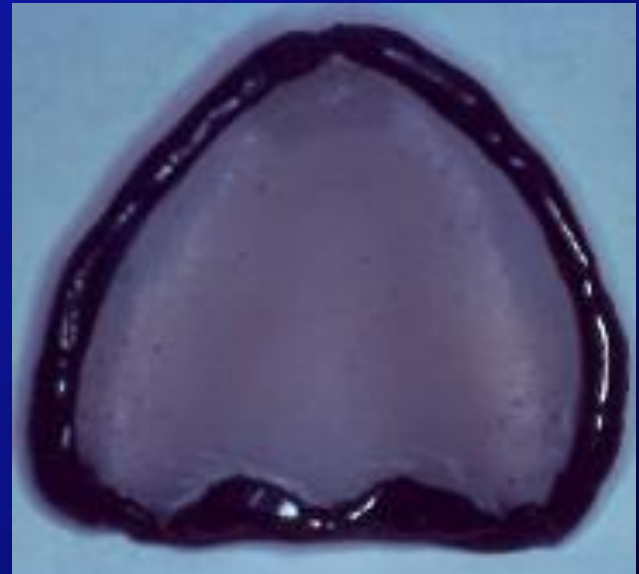
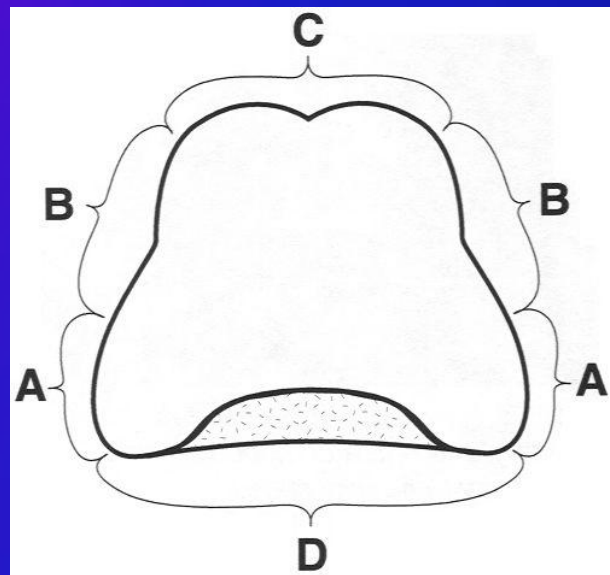
Evaluating Maxillary Border Molding Retention



Assessing Peripheral Role

- Proper thickness
- No overlap





The posterior border:

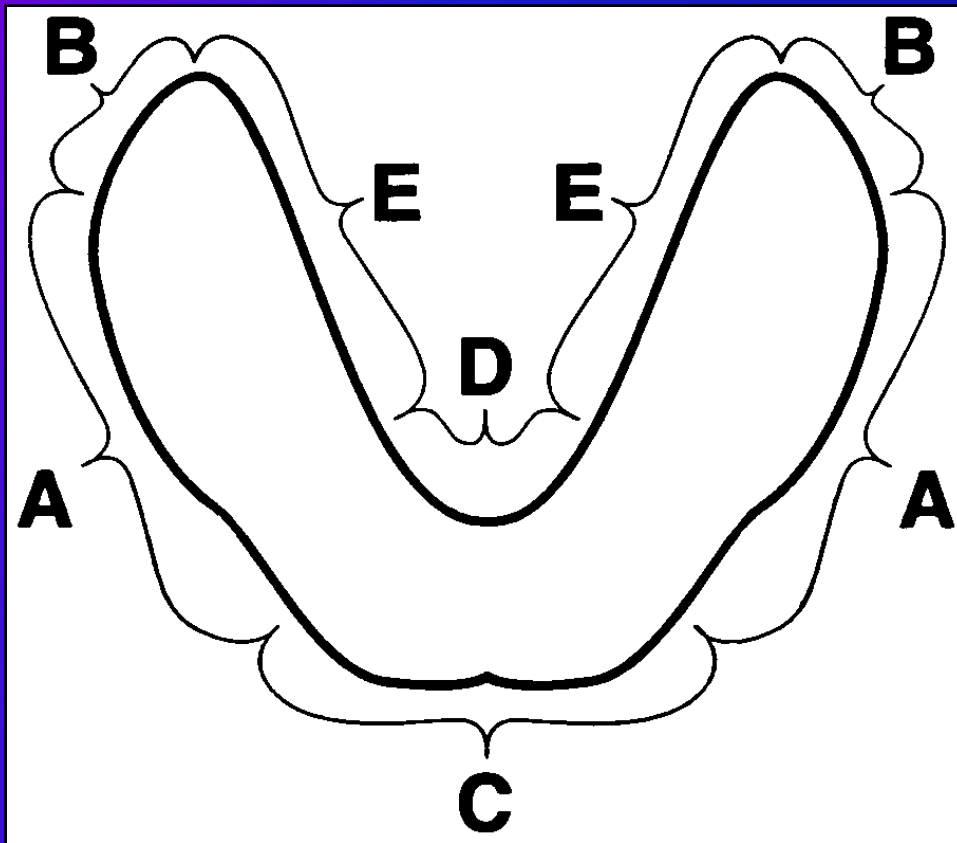


-The green stick compound is added over the posterior section of the tray

ah! to identify vibrating line

-palpate to identify compressible tissue

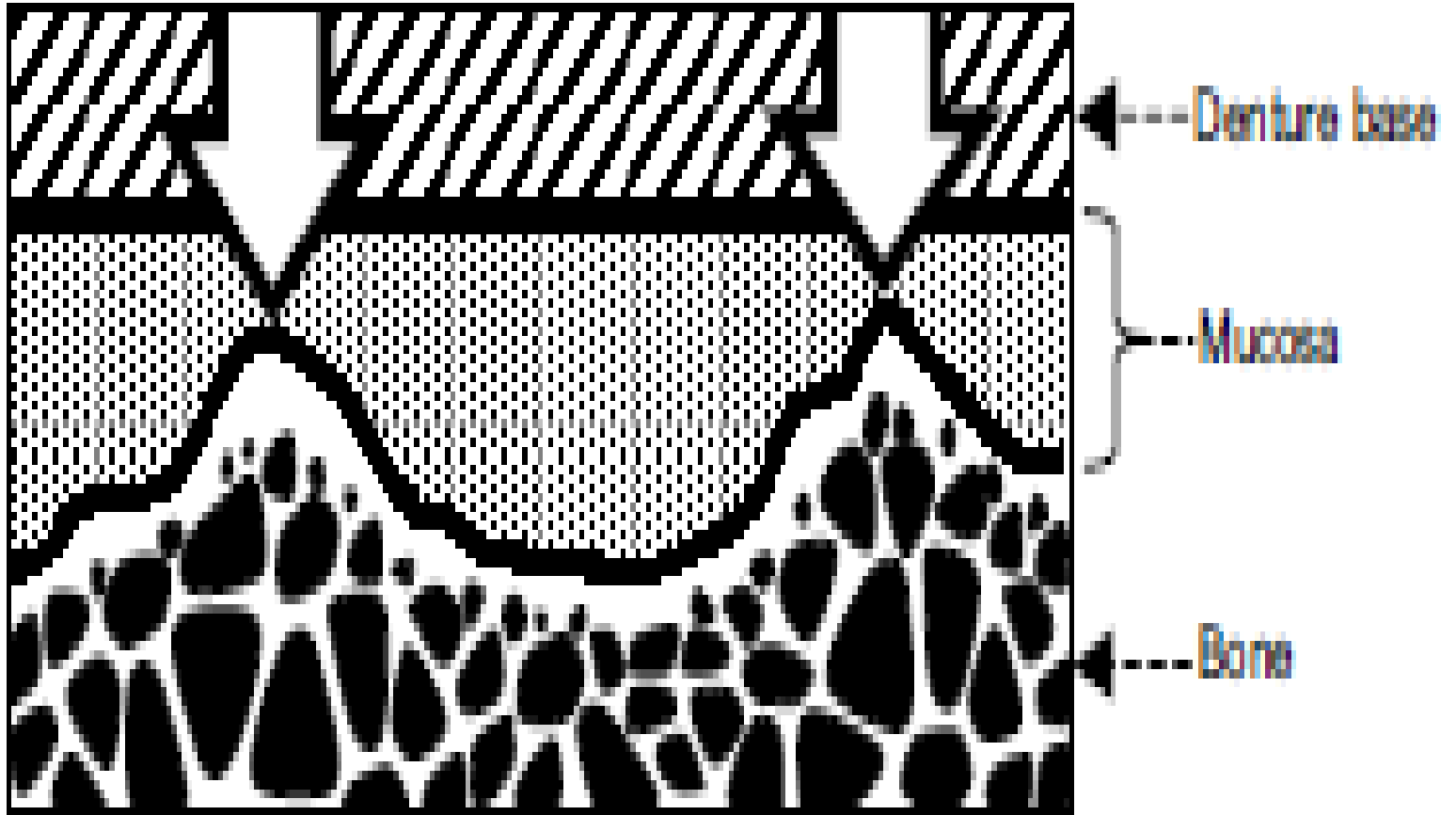
Sequence- mandible



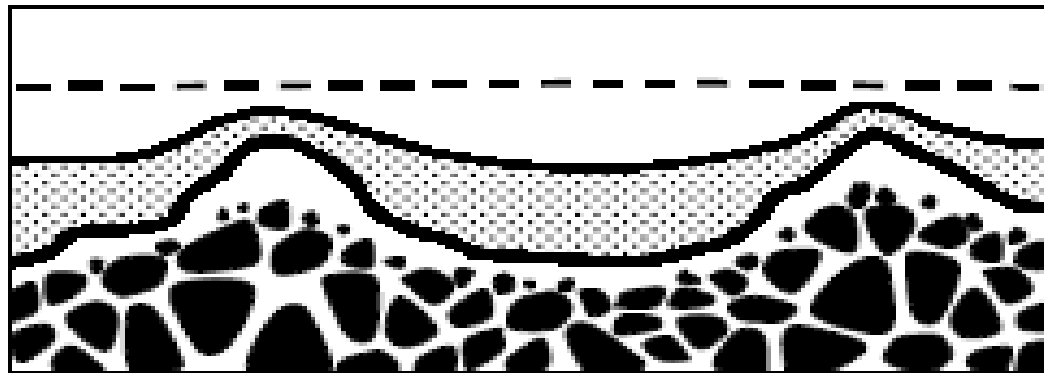
C- Final impression making

Final impression Theories

- 1. Minimal-pressure Impression Technique**
- 2. Muco- compression Impression Technique,**
- 3. Selective- pressure Impression Technique,**



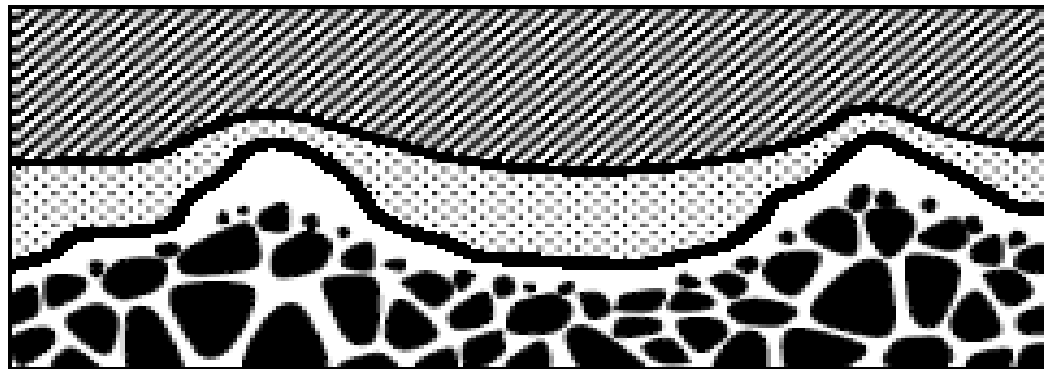
(a)



Resting shape of
mucosa

Displaced shape of
mucosa

(b)



Denture base

(c)

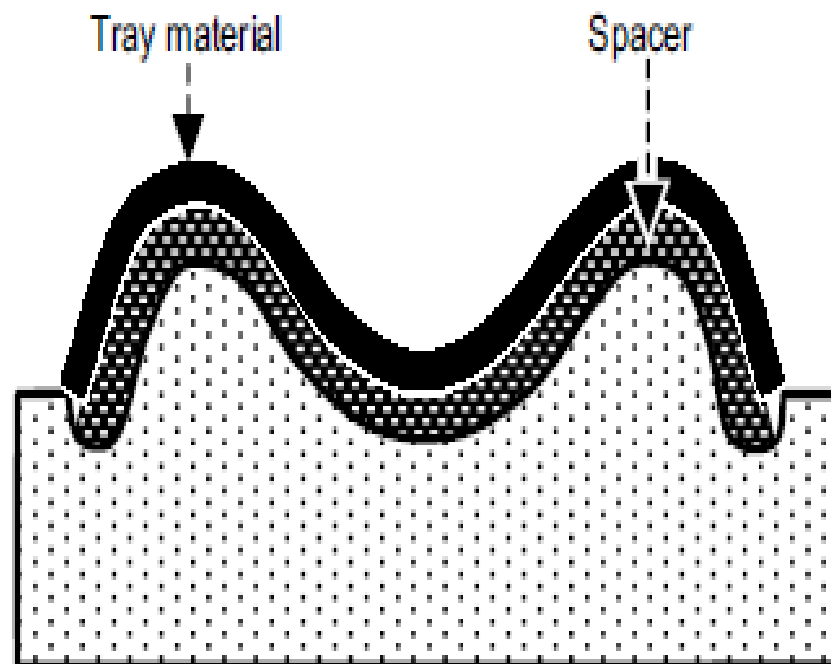


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1. Minimal-pressure Impression Technique

oral tissues are recorder at minimal displacement.

- **Requirements:**
 1. **Fluid impression materials**
 2. **Rigid special tray with perforation and/or spaced with definite stoppers.**
 3. **Used open mouth technique.**
 4. **The ideal impression material**
 - **plaster of paris**
 - **alginate impression material.**





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- **Advantages:**

1. The operator can see the proper border molding and the various muscle movement can be accomplished easily.
2. decreased tissue distortion and bone resorption.

Indicated: in flabby ridges.

- Disadvantages:

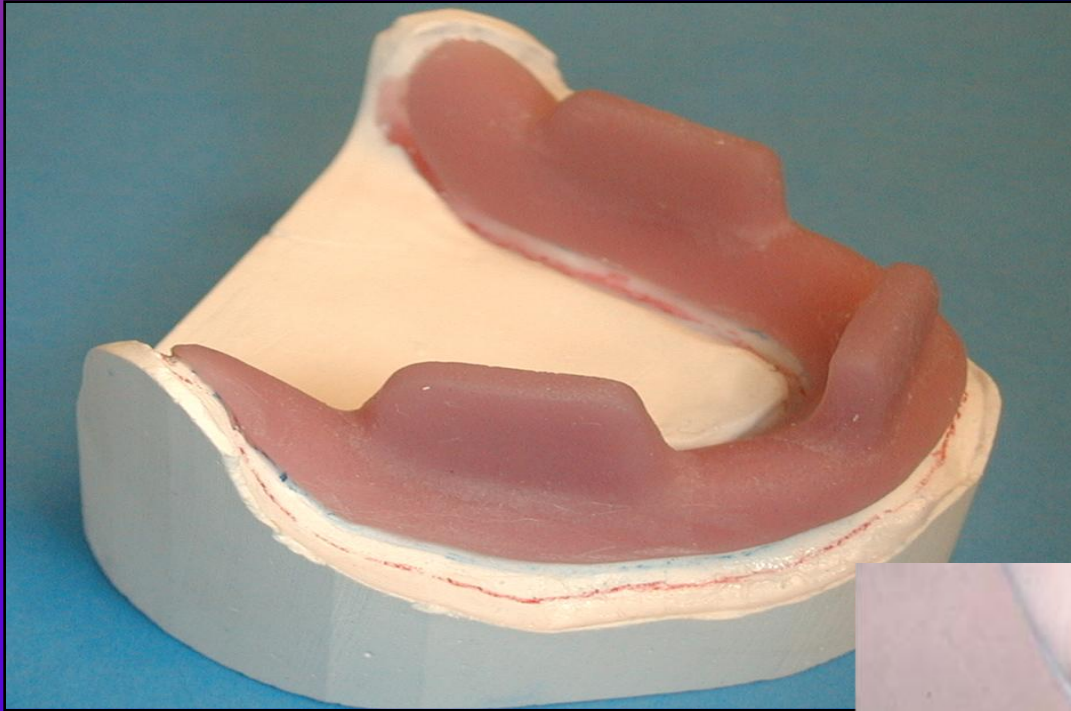
1. There is no one impression material can record with non-pressure.
2. The *mucosal topography is not static over the day.*
3. *Neglect the value of distributing masticator forces* over good supporting areas and relief the sensitive areas.

2. Muco-compression Impression Technique

Negative representation of the denture supporting area under pressure while the impression material set.

- Requirements:

1. Impression materials used should have a relatively longer setting time and not *be easy flow*.
2. *Non-perforated special tray with closed fit and occlusion rim are used.*
3. Used *closed mouth technique*.
4. The ideal impression material is *zinc-oxide* impression material.



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- **Advantages:**

- 1. Increased denture retention during mastication.**
- 2. The patient can exert his own particular masticatory force on the impression material.**

- Disadvantages:

1. The denture did *not fit well at rest*, because tissue rebound.
2. The impression made with closed mouth technique don't allow for adequate border molding and thus the *border is overextended*.
3. The muco-compression *interfere with blood supply* and therefore accelerate resorption of the alveolar ridge.

3. Selective-pressure Impression Technique

This is a negative representation of the different denture supporting areas with different pressure applied.

- 1) *The Splint Method*
- 2) *The Composite Method*
- 3) *Zinc oxide paste or plaster wash for compound impression*
- 4) *Spacer and Holes Technique*
- 5) *Heavy and light silicon method*

1-plaster wash final impression



2-The composite method:

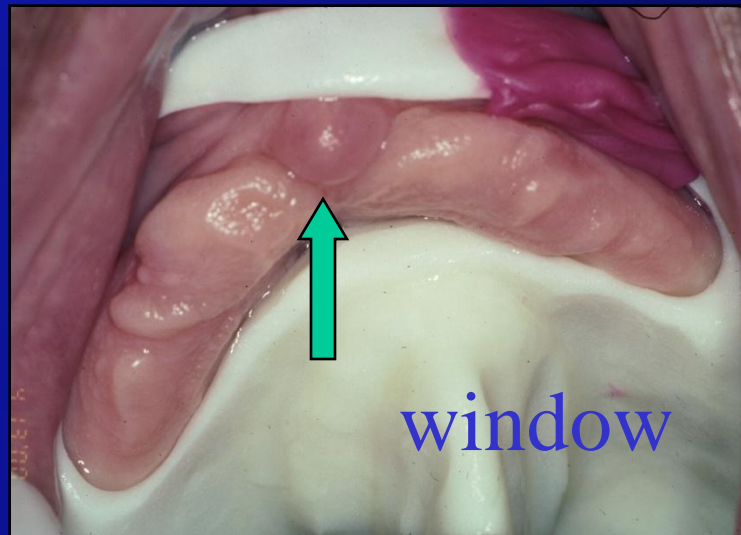
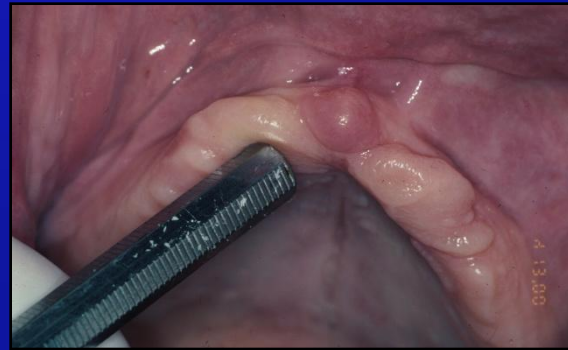
flabby tissue is in the anterior part of the mouth.



3- Zinc oxide paste or plaster wash for compound impression

- compound impression is made in a metal tray.
- The area of mobile tissue is cut away and replaced with zinc oxide paste or plaster
- the impression reinserted into the mouth

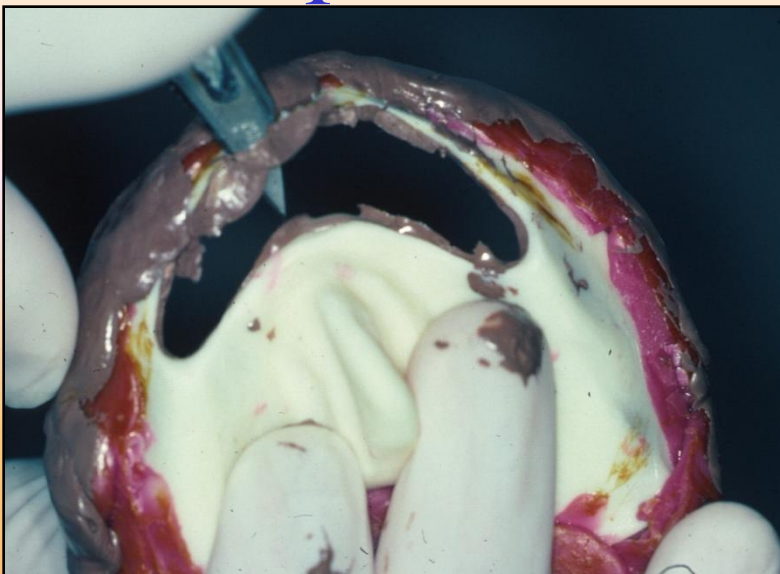
UNDERCUT - FLABBY





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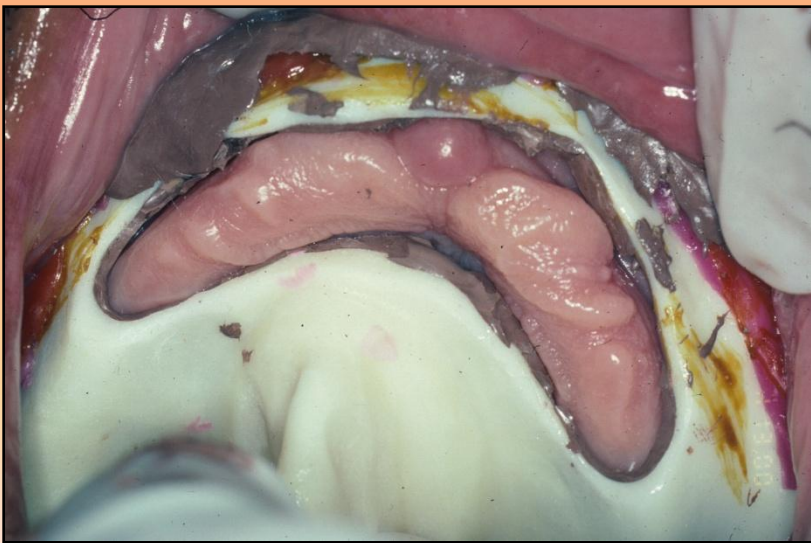
1



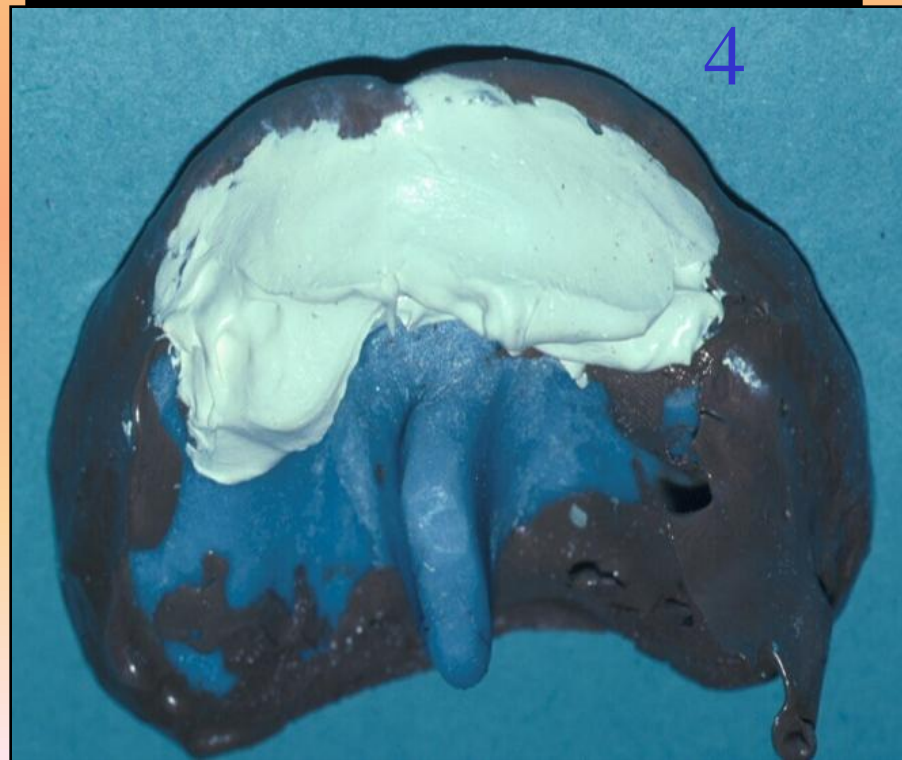
2



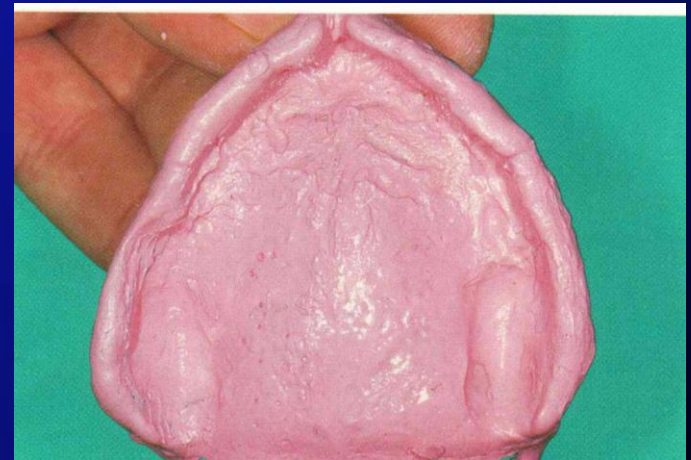
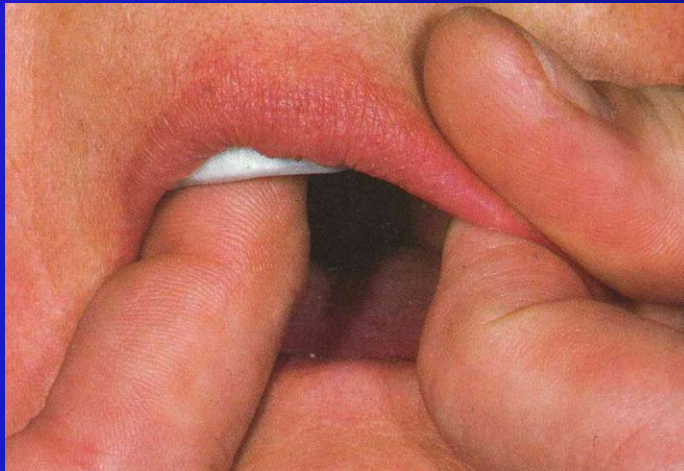
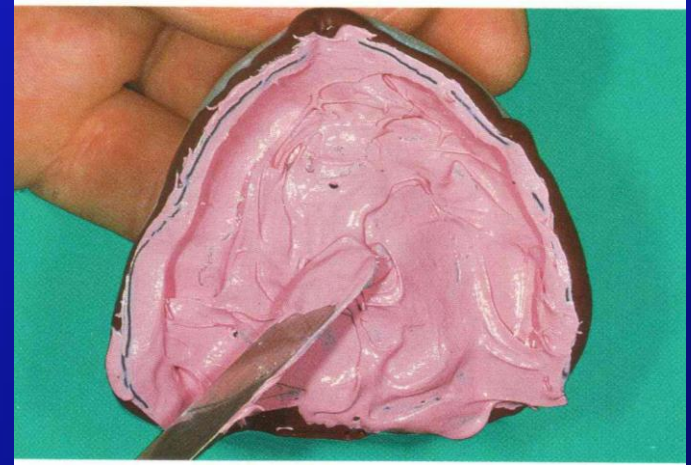
3



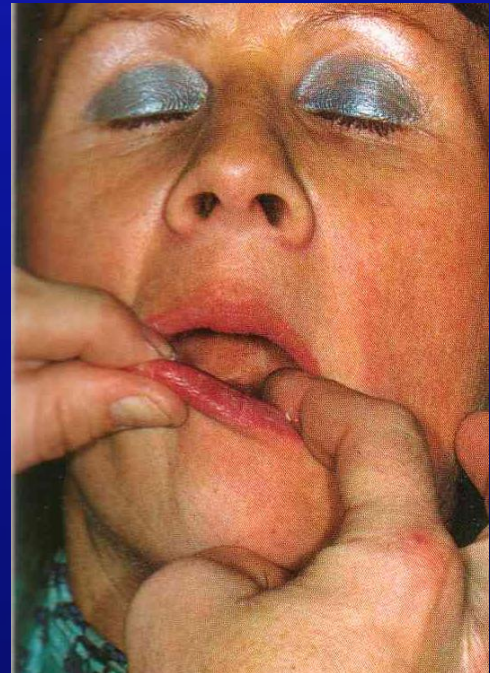
4



Secondary impression



Mandibular secondary impression



Posterior Lingual Areas

- An “S” shaped lingual flange commonly results in posterior lingual area



Oxidation - process



Oxidation - process

Final impression



Final mandibular impression



rubber
base

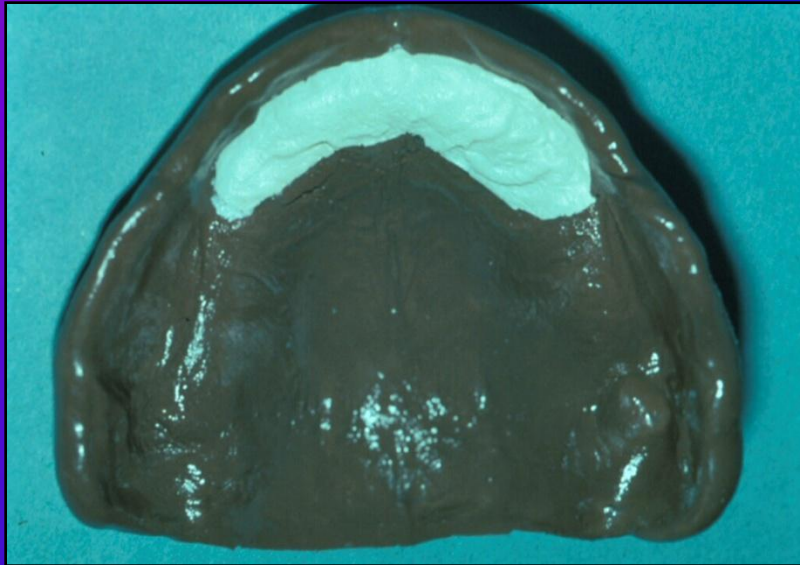


pvs



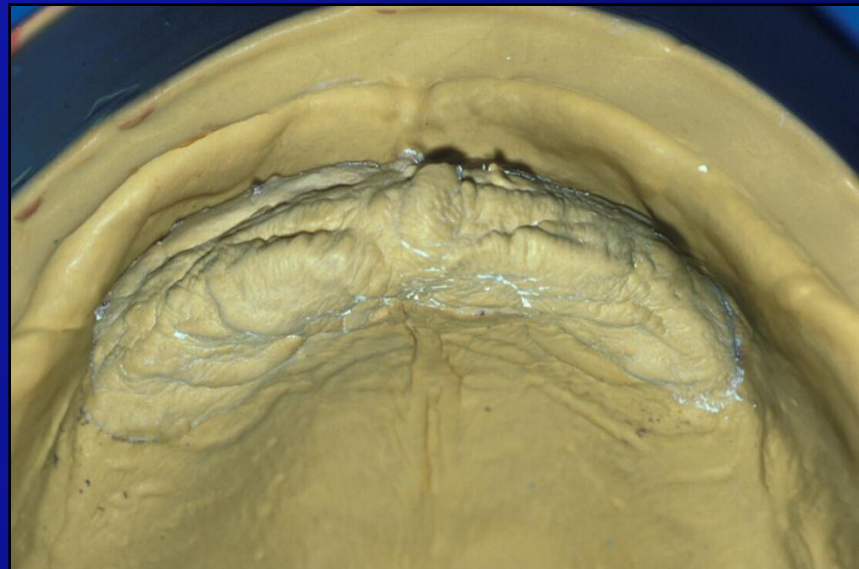


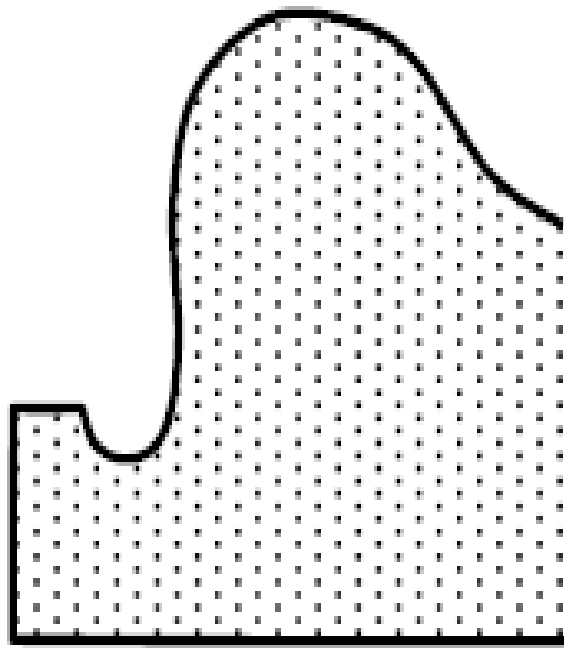
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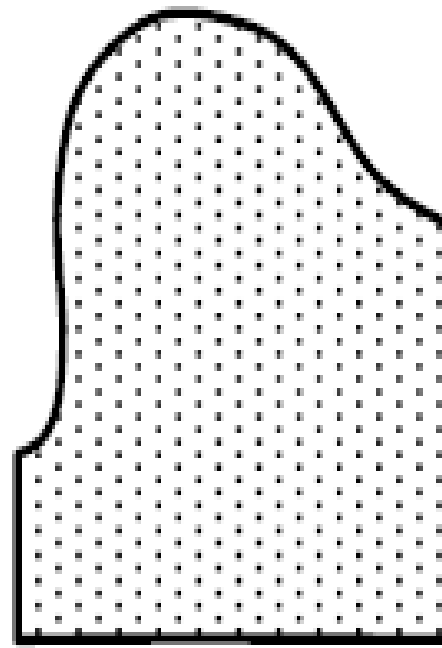
wash impression
material painted over
movable tissue

final undistorted
master cast





(a)



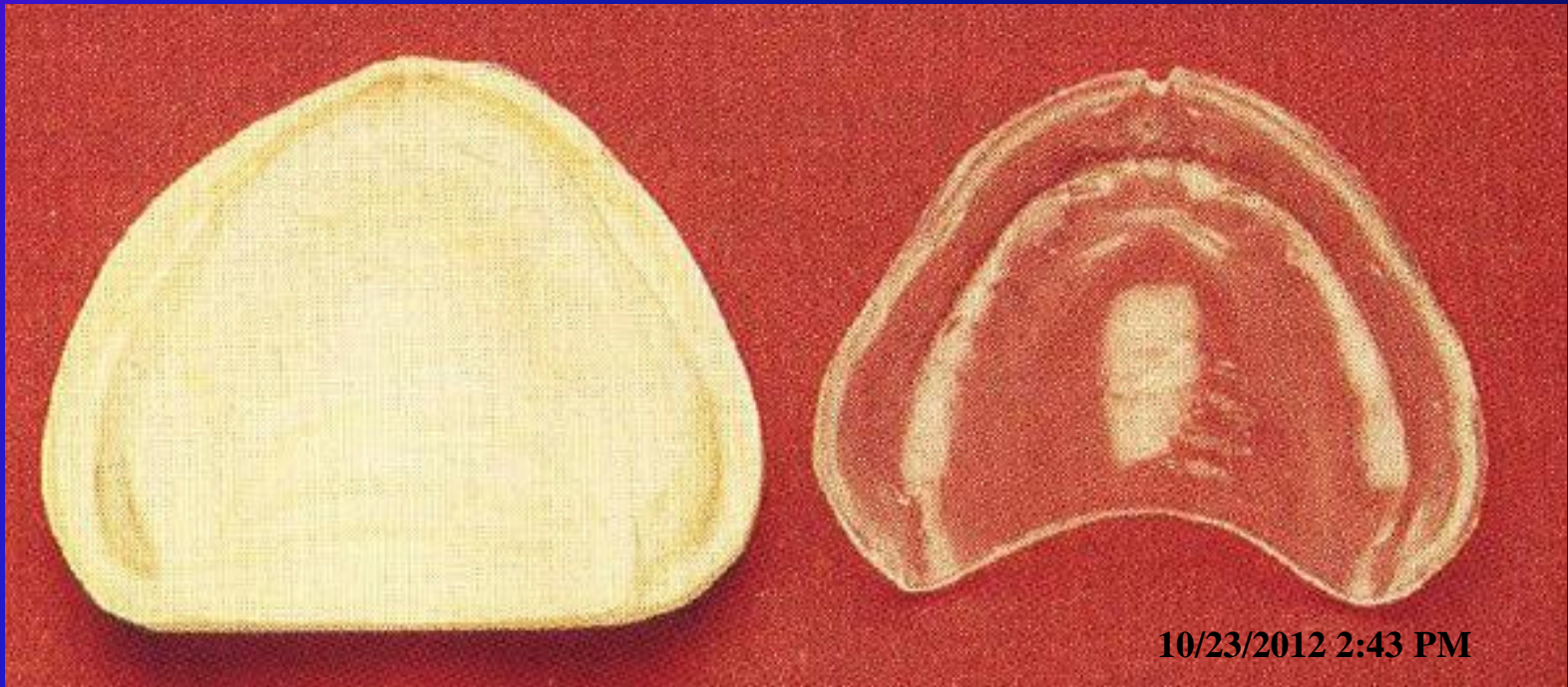
(b)

Nausea during impression making

Management

- 1. A firm sympathetic manner of self-confidence**
- 2. The patient should blow the nose to clear any nasal obstruction and then encouraged in deep, nasal breathing.**
- 3. Explain to the patient that, as soon as the impression is seated, the head may be brought well forward**

- 5. Using as little material as possible.**
- 6. Avoid touching the dorsum of the tongue.**
- 7. Construct a fitting base plate in acrylic on the first impression (training flange)**



5. Desensitize the surface of the mucous membrane with:

- a) Phenol mouth washes of one part phenol to eighty parts of cold water.**
- b) Sucking a tablet made for this purpose.**
- c) The application of a surface type of local anesthetic either in the form of cream or spray.**

Remaking the Final Impression

The tray is correctly positioned in the mouth, errors in the impression indicate that the tray needs to be modified before another impression is made.

- *The tray should not be modified* unless it was positioned correctly when the impression was made.

•

- A thick *buccal border* on one side with a thin buccal border on the opposite side. ???
- *A thin labial border* with the tray showing on the inside surface of the labial flange.
???
- A thick *lingual border* on one side with a thin lingual border on the opposite side.
- A thin *anterior lingual border* with the tray showing on the inside surface of the lingual flange.

- *Excess thickness* of impression material over the fitting surface of the tray and *material unsupported* by the borders of the tray. This indicates that the tray was not seated down sufficiently on the residual ridge.
- The correct thickness of material over the fitting surface of the tray, *but material extending beyond the border* of the tray so that it is un-supported by the tray, suggests that the tray is under extended in that area.

THE END



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